

EDWARD D. MCCORMACK
Curriculum Vitæ

Civil and Environmental Engineering
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EDUCATIONAL HISTORY

University of Washington, Seattle, Washington
Ph.D. Geography
June 1997

Dissertation: A Chained-Based Exploration of Work Travel by Residents of Mixed Land-Use Neighborhoods.

University of Washington, Seattle, Washington
M.S. in Civil Engineering
March 1986

Thesis: An Examination of Transit's Work-Share Using Census Journey-to-Work and Transit On-Board Survey Data.

University of Washington, Seattle, Washington
B.A. Geography
December 1979

EMPLOYMENT HISTORY

University of Washington, Department Civil and Environmental Engineering
Seattle, Washington

Director, Master of Sustainable Transportation Program, September 2017-present.

University of Washington, Department Civil and Environmental Engineering
Seattle, Washington

Research Associate Professor, July 2016-present.

University of Washington, Department Civil and Environmental Engineering
Seattle, Washington

Research Assistant Professor, October 2007–June 2016 (50% position)

University of Washington, Washington State Transportation Center (TRAC)
Seattle, Washington

Senior/Principal Research Engineer, August 1995–June 2016, (50% position after October 2007)

Norwegian Public Roads Administration, ITS Section
Trondheim, Norway

Chief Engineer, August 2013–July 2014 (on leave from the UW)

Norwegian University of Science and Technology

Department of Civil and Transport Engineering, Traffic Engineering Research Centre
Trondheim, Norway

Visiting Researcher, August 2013–July 2014

SINTEF, Technology and Society Program, Road and Transport Studies
Trondheim, Norway
Researcher, July 2008–November 2008 (on leave from the UW)

University of Washington, Transportation Northwest, University Transportation Center for
Federal Region X
Seattle, Washington
Co-Director, Freight Program, October 2007–June 2010

University of Washington, Urban Design and Planning, Master in Strategic Planning for Critical
Infrastructures
Seattle, Washington
Lecturer, 2005–2007

University of Washington, Department Civil and Environmental Engineering
Seattle, Washington
Instructor, 2003–2007

University of Washington, Washington State Transportation Commission, Innovations Unit
Seattle, Washington
Research Assistant, 1993–1995

David Evans and Associates
Bellevue, Washington
Senior Transportation Planner, 1990–1993

University of Washington, Washington State Transportation Center (TRAC)
Seattle, Washington,
Research Engineer, 1985-1990

Puget Sound Council of Governments
Seattle, Washington
Assistant Transportation Planner, 1982, 1983–1985

Norwegian Technical University
Trondheim, Norway
Stipend Transportation Researcher, 1982–1983

University of Washington, Department of Civil Engineering
Seattle, Washington,
Research Assistant, 1981–1982

King County Planning
Seattle, Washington
Transportation Intern/Cartographic Assistant, 1979–1980

AWARDS AND HONORS

2020 Faculty Appreciation for Career Education & Training (FACET) Award for my mentoring of students.

Valle Scholarship and Scandinavian Exchange faculty support grant to develop a collaborative research organization with the University of Washington and three universities in Norway and Sweden, 2020, \$10,000.

The Research Council of Norway, January 2014, Leiv Eiriksson mobility programme grant to support a research stay in Norway, \$29,000.

Faculty Mentor, URDP 508, Bike Share Studio, The project resulting from this class won the American Institute of Certified Planners 2010 National Student Project award and honorable mention in the student category at the 2010 American Planning Association, Washington Chapter Awards Programs.

Ullman Award for Outstanding Doctoral Work, 1997 Department of Geography, University of Washington, Seattle.

Valle Scandinavian Exchange Scholarship for study at the Norwegian Technical University in Trondheim, Norway, 1982–1983.

AFFILIATIONS AND OTHER APPOINTMENTS

Professor 2, Department of Civil and Transport Engineering, Norwegian University of Science and Technology, Trondheim, Norway (2015 to present, funding and position renewed until May 2022).

Adjunct Research Associate Professor, Urban Design and Planning, University of Washington, Seattle (2016 to present).

Adjunct Research Assistant Professor, Urban Design and Planning, University of Washington, Seattle (2009 to 2016).

PUBLICATIONS

REFEREED ARCHIVAL JOURNAL PUBLICATIONS

1. McCormack, E., A. Goodchild, M. Sheth and D. Hurwitz, (2019). Developing design guidelines for commercial vehicle envelopes on urban streets. *International Journal of Transport Development and Integration*, 3(2), 132-143.
2. McCormack, E., and Vaa, T. (2019). Testing unmanned aircraft for roadside snow avalanche monitoring. *Transportation research record*, 2673(2), 94-103.
3. Bovbjerg, A, M. Sheth, A. Goodchild, E. McCormack, and P. Butrina, (2019) Rails-Next-to-Trails: A Methodology for Selecting Appropriate Safety Treatments at Complex Multimodal Intersections, *Transportation Research Record*, 2672 (10), pp.12-27.
4. Abadi, M. G., Hurwitz, D. S., Sheth, M., McCormack, E., & Goodchild, A. (2019). Factors impacting bicyclist lateral position and velocity in proximity to commercial vehicle loading zones: application of a bicycling simulator. *Accident Analysis & Prevention*, 125, 29-39.

5. Sheth, M., Butrina, P., Goodchild, A., & McCormack, E. (2019). Measuring delivery route cost trade-offs between electric-assist cargo bicycles and delivery trucks in dense urban areas. *European Transport Research Review*, 11(1), 11.
6. Goodchild, A., B. Ivanov, E. McCormack, A. Moudon, J. Scully, J. Machado Leon and G. Giron Valderrama. (2018) Are Cities' Delivery Spaces in the Right Places Mapping Truck Load/Unload Locations, *City Logistics 2*, Wiley Modeling and Planning Initiatives.
7. Ehlers, U., E. Ryeng, E. McCormack, F. Khan, S. Ehlers (2018) Bowtie analysis without expert acquisition for safety effect assessments of cooperative intelligent transport systems, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems*, Part A: Civil Engineering, 4(4), 04018036.
8. Wang, Z., A. V Goodchild, and E. McCormack, (2017) A methodology for forecasting freeway travel time using reliability a methodology for forecasting freeway travel time reliability using GPS data, *Transportation Research Procedia*, 25, pp 842-852.
9. Ehlers, U., E. Ryeng, E. McCormack, F. Khan, S. Ehlers (2017) Assessing the safety effects of cooperative intelligent transport systems: a bowtie analysis approach, *Accident Analysis and Prevention*, 99PA pp. 125-141.
10. Ma, X., W. Yong, E. McCormack, and Y. Wang, (2016) Understanding Freight Trip Chaining Behavior Using Spatial Data Mining Approach with GPS Data, *Transportation Research Record*. 2596, 44-54.
11. Wang, Z., Goodchild, A. V., and McCormack, E. (2016). Freeway Truck Travel Time Prediction for Freight Planning using Truck Probe GPS Data. *European Journal of Transport and Infrastructure Research*, 16(1), 76-94.
12. Wygonik, E., A. Bassok, E. McCormack, A. Goodchild, and D. Carlson, (2016) Urban Land use Patterns and Truck Movement: A Case Study and Discussion of Forecasting Tools, *Transportation Research Record*, 2547, 74-82.
13. Wang, Z., A. Goodchild, and E. McCormack, (2016) Measuring Truck Travel Time Reliability Using Truck Probe GPS Data, *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations*, 20:2, 103-112.
14. Wygonik E., A. Bassok, A. Goodchild, E. McCormack, and D. Carlson (2015) Smart Growth and Goods Movement: Emerging Research Agendas, *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, Volume 8, Issue 2, 115-132.
15. McCormack, E., A. Goodchild, and A. Bassok, (2014) Smart Growth and Urban Goods Movement, *TR News* 295, November-December.
16. Wygonik, E. , E. McCormack, and D. Rowe (2014) Bike-Share Planning in Cities with Varied Terrain, *ITE Journal*, July, 31-35.
17. McCormack, E. (2014) Developing Roadway Performance Measures using Commercial GPS Data from Trucks, *ITE Journal*, June, 36-40.
18. Gao, J., Z. Peng, C. Zhuge and E. McCormack (2013) Impact of Transit Network Layout on Resident Mode Choice, *Mathematical Problems in Engineering*, Volume 2013.
19. Zhao, W., E. McCormack, D. Dailey, and E. Scharnhorst (2013). Using Truck Probe GPS Data to Identify and Rank Roadway Bottlenecks, *ASCE Journal of Transportation Engineering*, 139(1), 1-7.

20. Goodchild, A., Pitera, K., and E. McCormack (2012) Examining the differential responses of shippers and motor carriers to travel time variability. *International Journal of Applied Logistics*, 3(1), 39-53.
21. Stover, V. and E. McCormack (2012) The Impact of Weather on Bus Ridership in Pierce County, Washington, *The Journal of Public Transportation*, Volume 15, Issue 1, 95-110.
22. Pitera, K., A. Goodchild, and E. McCormack (2012) Examining the Differential Responses of Shippers and Motor Carriers to Travel Time Variability, *International Journal of Applied Logistics*, Volume 3:1 39-53.
23. Ma, X., E. McCormack, and Y. Wang (2011) Processing Commercial GPS Data to Develop Web-Based Truck Performance Measure Program, *Transportation Research Record*, 2011, 92–100.
24. Zhao, W., A. Goodchild, and E. McCormack (2011) Evaluating the Accuracy of GPS Spot Speeds for Estimating Truck Travel Speed, *Transportation Research Record*, 2011, 101–110.
25. McCormack, E. and A. Bassok (2011) Evaluating Two Low-Cost Methods of Collecting Truck Generation Data Using Grocery Stores, *ITE Journal*, 81 (6) 34–40.
26. McCormack, E., M. Jensen, and A. Hovde (2010) Evaluating the Use of Electronic Door Seals (E-Seals) on Shipping Containers. *International Journal of Applied Logistics*, 1 (4) 13-29.
27. McCormack, E. and J. Stimberis (2010) Evaluating the Use of Small Unmanned Aircraft for Avalanche Control. *Transportation Research Record*, 2169, 168-173.
28. McCormack, E. (2009) Exploring Transportation Applications of Small Unmanned Aircraft, *ITE Journal*, 79 (12) 32–37.
29. McCormack, E. and M. Hallenbeck (2006) ITS Devices Used to Collect Truck Data for Performance Benchmarks. *Transportation Research Record* 1957, 43-50.
30. McCormack, E. and P. Briglia (2003) Using Technology to Move Freight in Washington State. *ITE Journal* 73(4), 46–49.
31. McCormack, E., G. S. Rutherford, and M. Wilkinson (2001) Travel Impacts of Mixed Land Use on Neighborhoods in Seattle. *Transportation Research Record* 1780, 25–32.
32. McCormack, E., and B. Legg (2000) The Role of ITS in Urban Safety. *ITS Quarterly* 8(2), 39–51.
33. McCormack, E. and B. Legg (1999) ITS and Rural Road Safety. *ITS Quarterly* 7(2), 23–35.
34. McCormack, E., (1999) Using a GIS to Enhance the Value of Travel Diaries. *ITE Journal* 69(1), 38–43.
35. McCormack, E. and T. Nyerges (1997) What Transportation Modeling Needs from a GIS: A Conceptual Framework. *Transportation Planning and Technology* 21(1–2), 5–23.
36. Ulberg, C., and E. McCormack (1988) Accuracy and Other Factors Affecting a Continuous Vehicle Occupancy Monitoring Program. *Transportation Research Record* 1206, 35–47.

FULLY REFEREED CONFERENCE PROCEEDINGS

1. Wang, Z.A. Goodchild, and E. McCormack “A methodology for forecasting freeway travel time using reliability a methodology for forecasting freeway travel time reliability using GPS data” *Transportation Research Procedia: Proceedings of the World Conference on Transportation Research*, Shanghai China, July 2016.

2. Drescher, J., A. Goodchild, and E. McCormack “A Description of Fatal Bicycle Truck Accidents in the United States: 2000 to 2010” *Annual Meeting of the Transportation Research Board*, Washington DC, January 2016.
3. McCormack E. and A. Aarke, Using ITS devices to Analyze Norwegian Truck Travel, 10th *ITS European Congress*, Helsinki, Finland, 16–19 June 2014.
4. Scharnhorst E., E. McCormack, and W. Zhao, Using GPS to Measure the Performance and Reliability of Transportation Systems, *The 11th International Conference “Reliability and Statistics in Transportation and Communication” (RelStat’11)*, Riga, Latvia, p. 428-434. Transport and Telecommunication Institute, Riga, Latvia, 19–22 October 2011.
5. McCormack E., ITS on the Washington/British Columbia Border, *Rural Advanced Technology and Transportation Systems*, Burlington, Vermont, CD-ROM August 25–28, 2001.
6. McCormack E., Rural ITS Safety Applications - Why They Need to be Different from Urban Applications. *Rural Advanced Technology and Transportation Systems International Conference*, CD-ROM, August 1999, Flagstaff, Arizona.
7. McCormack E., The Contribution of ITS to Rural Safety: A Look at Crashes in Washington State. *Rural Advanced Technology and Transportation Systems International Conference*, CD-ROM, August 1998, State College, Pennsylvania.
8. McCormack E., Rural Transportation Investment and Economic Development. *Rural Advanced Technology and Transportation Systems International Conference*, August 1997, Big Sky, Montana.
9. Rutherford, G. S., E. McCormack, and M. E. Wilkinson, Travel Impacts of Urban Form: Implications from an Analysis of Two Seattle Area Travel Diaries. *Travel Model Improvement Program Conference on Urban Design, Telecommuting and Travel Behavior*, October 1996, Williamsburg, Virginia. (Cites 53, Google Scholar)
10. Dougherty B. and E. McCormack, A Reduced Fare Permit for Elderly and Disabled. *Third International Conference on Mobility and Transportation for Elderly and Handicapped Persons*, October 1984, Orlando, Florida.

REFEREED POSTER SESSIONS

1. McCormack E., A. Goodchild, W. Eisele, M. Hallenbeck, *Development and Application of a Framework to Classify and Mitigate Truck Bottlenecks to Improve Freight Mobility* Transportation Research Board 2018 Annual Meeting, January 8, Washington D.C.
2. Machado J., G. Giron, A. Goodchild, E. McCormack, *Mapping Urban Freight Infrastructure for Planning: A Demonstration of a Methodology*, Transportation Research Board 2018 Annual Meeting, January 8, Washington D.C.
3. Butrina S., M. Sheth, A. Goodchild, E. McCormack, *Measuring the Cost Trade-Offs Between Electric-Assist Cargo Bikes and Delivery Trucks in Dense Urban Areas* Transportation Research Board 2018 Annual Meeting, January 8, Washington D.C.
4. Sankarakumaraswamy, S., E. McCormack, A. Goodchild, and M. Hallenbeck, *Evaluating Global Positioning System Data Usability for Freight Performance Measures* Transportation Research Board 2017 Annual Meeting, January 10, Washington D.C.
5. Wygonik, E., A. Bassok, E. McCormack, A. Goodchild, and D. Carlson, *Forecasting Tools for Analyzing Urban Land Use Patterns and Truck Movement: Case Study and Discussion*, Transportation Research Board 2016 Annual Meeting, January 12, Washington D.C.

6. Zhao, W., A. Goodchild, and E. McCormack, *Evaluating the Accuracy of GPS Spot Speed Data for Estimating Truck Travel Speed*, Transportation Research Board 2011 Annual Meeting, January, Washington D.C.
7. Ma, X., E. McCormack, and Y. Wang, *Processing Commercial GPS Data to Develop a Web-Based Truck Performance Measure Program*, Transportation Research Board 2011 Annual Meeting, January, Washington D.C.
8. Goodchild, A., K. Pitera, and E. McCormack, *Examining the Differential Responses of Shippers and Carriers to Travel Time Variability*, Transportation Research Board 2011 Annual Meeting, January, Washington D.C.
9. Ma, X. and E. McCormack, *Developing a GPS Based Truck Performance Measures Platform*, Transportation Research Board 2010 Annual Meeting, January, Washington D.C.
10. McCormack, E., M. Jensen and A. Hovde, *Lessons from Tests of Electronic Container Door Seal (E-seals)*, Transportation Research Board 2009 Annual Meeting, January, Washington D.C.
11. McCormack, E., and M. Hallenbeck, *Using ITS Devices to Create Freight Performance Benchmarks*, Transportation Research Board 2005 Annual Meeting, January, Washington D.C.

TECHNICAL REPORTS AND ARTICLES

1. McCormack E. (editor), R. Frauenfelder, S. Salazar, H. Smebye, T. Humstad, E. Solbakken, (2020) Photogrammetry and Drones for Avalanche Monitoring, Norwegian Public Roads Administration, Nr. 665.
<https://www.vegvesen.no/fag/publikasjoner/publikasjoner/statens+vegvesens+rappoter>.
2. McCormack, E. Anne Goodchild, Manali Sheth, David S. Hurwitz, Hisham Jashami, and Douglas P. Cobb (2020) Developing Design Guidelines for Commercial Vehicle Envelopes on Urban Streets, PacTrans Technical Report.
3. Multiple authors including E. McCormack, (2019) Multimodal Freight Research Road Map, National Cooperative Highway Research Program project report 20-144, in production.
4. McCormack, E. (Editor), T. Vaa, G. Håland T. Humstad and R. Frauenfelder, (2018) Evaluating Sensors for Snow Avalanche Monitoring on UAS, Findings from Andøya, Norway, Statens vegvesens rapporter Nr 615, September 12,
<https://www.vegvesen.no/fag/publikasjoner/publikasjoner/Statens+vegvesens+rappoter>
5. McCormack, E., T. Vaa, G. Håland and T. Humstad, (2018) Testing unmanned aircraft for roadside snowpack avalanche evaluation, Nordic Road and Transport Research, August 9, www.nordicroads.com.
6. Multiple authors including E. McCormack. The Final 50 Feet Urban Good Delivery System, (2018) University of Washington, Supply Chain Transportation and Logistics Center, January 19th, <http://depts.washington.edu/sctlctr/research/publications>
7. Ahanotu, D., R. Margiotta, B. Eisele, M. Hallenbeck, A. Goodchild, and E. McCormack. 2017. Guide for Identifying, Classifying, Evaluating, and Mitigating Truck Freight, Bottlenecks, NCHRP Research Report 854. Transportation Research Board, Washington, D.C.
8. McCormack, E., T. Vaa and G. Håland, (2016) Unmanned Aircraft for Roadside Avalanche Monitoring, *Nordic Road and Transport Research*, December 2, www.nordicroads.com.

9. McCormack, E., T. Vaa and G. Håland, (2016) Evaluating Unmanned Aircraft Systems for snow avalanche monitoring in winter weather and in mountainous terrain, Project report for Norwegian Public Roads Administration, May.
10. Hallenbeck M., E. McCormack, and S. Sankarakumaraswamy (2015) Developing a System for Computing and Reporting MAP-21 and Other Freight Performance Measures, Research Report Prepared for the Washington State Department of Transportation, WA-RD 844.1, July.
11. Goodchild, A. P. Butrina, E. McCormack, and J. Drescher (2015) An Evaluation of Safety Impacts of Seattle's Commercial Delivery Parking Pricing Project, PacTrans Report.
12. McCormack, E., (2014) Why You Should Become a Transportation Researcher Video, Fast Forward Transportation Work Force Development, University of Nebraska.
13. Sage, J., Casavant, K., Goodchild, A., McCormack, E., Wang, Z., McMullen, S., and D. Holder (2013) Development of a Freight Benefit /Cost Methodology for Project Planning, for Washington State Department of Transportation and PacTrans.
14. McCormack, E. GPS Data and Truck, (2013) Background paper for the Norwegian Public Roads Administration.
15. Troup, K., E. McCormack, and R. Schiller, (2013) National Cooperative Freight Research Program Report 25, Freight Data Sharing Guidebook, National Academy of Sciences.
16. Lundquist, J., E. McCormack, F. White, K. Gauksheim and J. Vagners, (2013) Snow Depths for the Heights: Developing a Mission Specific Civilian Unmanned Aircraft System for sensing the Mountain Snowpack. Prepared for the Joint Center for Aerospace Technology Innovation (JCATI), June 30.
17. Multiple authors including E. McCormack, (2013) National Cooperative Freight Research Program 32, Smart Growth and Urban Good Movement, NCFRP Report 24, Transportation Research Board.
18. Bassok, A., E. McCormack, M. Outwater and C. Ta (2011). Use of Truck GPS Data for Freight Forecasting. In *Transportation Research Board 90th Annual Meeting*, No. 11-3033.
19. McCormack, E., M. Faucher, K. Iverson and S. Campbell, (2011) LiDAR at WSDOT, Research Report Prepared for the Washington State Department of Transportation, November.
20. McCormack, E., and W. Zhao, (2011) GPS Truck Data Performance Measure Program in Washington State, Research Report Prepared for the Washington State Department of Transportation, June.
21. McCormack, E., (2011) Developing Transportation Metrics from Commercial Truck Data, Transportation Northwest Final Report, May.
22. McCormack, E., (2011) ITS Evaluation--Phase 3, WA-RD 672.3 Agreement No. T4118, Task 53, Final research report.
23. McCormack, E., E Scharnhorst, and W. Zhao, (2011) Using GPS Devices to Identify and Rank Bottlenecks in Washington State, Research Report Prepared for the Washington State Department of Transportation, February.
24. Scharnhorst E., and E. McCormack, (2011) GPS Truck Data: Before and After Analysis of State Route 519, Research Report Prepared for the Washington State Department of Transportation. November 29.

25. Haselkorn M, D. Daily, M. Dunbar, E. McCormack, M. Zachey, A Murat, D. Gemeinhardt , C. Garrison-Laney, K. Wieben, and S. Nasser (2010) Aligning Border Security Operations with Command, Control and Communication Systems: Final Report of the NCBSI Operational Assessment and Command, Control and Communication Projects, Department of Homeland Security, July.
26. McCormack E., C. Ta., A. Bassok, and E. Fishkin, (2010) Trip Generation by Grocery Stores, Transportation Northwest Project Final Report, June 30.
27. McCormack, E. and J. Stimberis (2010) Small Unmanned Aircraft Tested for Use in Avalanche Control, *The Avalanche Review: A Publication of the American Avalanche Association*, Vol. 28, No. 4 April.
28. Klein, M. and E. McCormack, (2010) Be-Logic - Benchmarking Logistics for Co-Modality, Country Report. Be-Logic Project: European Commission, April.
29. McCormack E., X. Ma, C. Klocow, A. Curraei, and D. Wright (2010) Developing a GPS-based Truck Performance Measures Platform, TRAC/TransNow report for the Washington State Department of Transportation, January.
30. Goodchild, A., E. Jessup, E. McCormack, D. Andreoli, S. Rose, C. Ta and K. Piteria (2009) Development and Analysis of a GIS-based Statewide Freight Data Flow Network. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 730.1.
31. Goodchild, A., Jessup, E., McCormack, E, Andreoli, D., Rose, S., Ta, C, and K. Pitera (2009) Developing Washington State's Freight Transportation System Resilience, Report for the Transportation Northwest
32. Goodchild, A., Jessup, E., McCormack, E, Andreoli, D. (2009) Requirements for a Washington Statewide Freight Simulation Model, Report for Transportation Northwest
33. McCormack, E. (2008) The Use of Small Unmanned Aircraft by the Washington State Department of Transportation. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 703.1.
34. McCormack, E., and M. Hallenbeck (2005) Options for Benchmarking Performance Improvements Achieved from Construction of Freight Mobility Projects. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 607.1.
35. McCormack, E., and M. Hallenbeck (2004) Options for Benchmarking Performance Improvements Achieved from Construction of Freight Mobility Strategic Investment Board (FMSIB) Projects. TRAC/University of Washington report for the Washington State Freight Mobility Strategic Investment Board.
36. Hallenbeck, M., E. McCormack, J. Nee, and D. Wright (2003) Freight Data from Intelligent Transportation System Devices. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 566.1.
37. McCormack, E. and B. Legg (1999) Technology and Safety on Urban Roadways: The Role of ITS for WSDOT. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 460.2.
38. McCormack, E., and B. Legg (1999) The Contribution of ITS to Rural Safety: A Look at Crashes in Washington State. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 460.1

39. McCormack, E. (1997) Transportation and Economic Development Linkages. TRAC/University of Washington report for the Washington State Department of Transportation Planning Office.
40. Carson, J., J. Nee, and E. McCormack (1997) An Investigation into the Effectiveness of Ice Warning Sign Placement Features. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 446.1.
41. McCormack, E. (1995) Congestion Pricing: An Examination of Feasibility Issues. Washington State Transportation Commission Innovations Unit report prepared for the Washington State Transportation Commission, WA-RD 095.1.
42. McCormack, E., J. Chang, G. S. Rutherford, and J. Ishimaru (1995) The Transportation Impacts of Mixed Land-use Neighborhoods. Washington State Transportation Commission Innovations Unit report prepared for the Washington State Transportation Commission, WA-RD 095.7.
43. Chang, J., E. McCormack, G. S. Rutherford, and J. Ishimaru (1993) Congestion on SR 520: A Study of Comprehensive Ramp Metering Alternatives. Washington State Transportation Commission Innovations Unit report prepared for the Washington State Transportation Commission, WA-RD 093.4.
44. McCormack, E. (1990) Final Comprehensive Transportation Plan for the City of Brier. David Evans and Associates consultant report.
45. McCormack, E. (1990) A State Level Freight Forecasting Model Framework. TRAC/University of Washington report for the Washington State Department of Transportation.
46. McCormack, E. and L. Blain (1990) State Level Transportation Applications using TIGER. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 209.1.
47. McCormack, E., and R. Sekar (1989) Ferry Fuel Consumption Improvement Study. TRAC/University of Washington report for the Washington State Energy Office.
48. McCormack, E. (1988–1989) UTPS Info - News from the Urban Transportation Planning Systems Center. Four newsletters prepared for the Urban Mass Transportation Administration.
49. Hallenbeck, M., G. S. Rutherford, and E. McCormack (1988) Traffic and Safety Analysis Procedures: Final report. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 156.2.
50. McCormack, E. (1988) The Use of Taxis and Jitneys for Low-density Transportation. TRAC/University of Washington report for the Washington State Department of Transportation.
51. Rutherford, G. S., M. Hallenbeck, and E. McCormack (1988) Traffic and Safety Procedure: Project Report on the Safety and Accident Procedures. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 156.1.
52. Ulberg, C., and E. McCormack (1988) Auto Occupancy Monitoring. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 157.1.
53. McCormack, E. (1987) Suggested Revision to WSDOT's Standard Plan Concerning Induction Loop Installation. TRAC/University of Washington report for the Washington State Department of Transportation.

54. Hallenbeck, M., G. S. Rutherford, and E. McCormack (1987) UTPS Microcomputer - Case Study and Training Aids; Instructions to Lecturers. TRAC/ University of Washington report prepared for the Urban Mass Transportation Administration.
55. McCormack, E. (1987) Double Bottom Truck Accidents on Interstate 90: Project Report. TRAC/University of Washington report for the Washington State Department of Transportation, WA-RD 134.
56. McCormack, E. (1987) Snowplowable Delineators - State-of-the-Art Study. TRAC/ University of Washington report for the Washington State Department of Transportation.
57. Rutherford, G. S., M. Hallenbeck, and E. McCormack (1987) UTPS/SLIM Application Manual and Case Study. TRAC/ University of Washington report prepared for the Urban Mass Transportation Administration.
58. Rutherford, G. S., E. McCormack, M. Hallenbeck, and R. Harvey (1987) UTPS/SLIM-Simplified Limited Instructional Manual-Program Documentation. TRAC/University of Washington report prepared for the Urban Mass Transportation Administration.
59. Ulberg, C., and E. McCormack (1987) TSM Evaluation - Initial Employment Site Vehicle Occupancy and Pedestrian Counts. TRAC/University of Washington report prepared for the Municipality of Metropolitan Seattle.
60. Hallenbeck, M., and E. McCormack (1986) State Travel Forecasting Final Report. TRAC/University of Washington report for the Washington State Department of Transportation.
61. McCormack, E. (1986) Self-service Fare Collection - A Literature Survey. TRAC/ University of Washington report for the Washington State Department of Transportation.
62. McCormack, E. (1986) Measuring Traffic Sign Reflectivity. TRAC/University of Washington report for the Washington State Department of Transportation.
63. McCormack, E. (1986) Transit as an Alternative to the Proposed Outer Ringway. Norwegian Technical University Transport Institute research report.
64. Rutherford, G. S., E. McCormack, M. Hallenbeck, and R. Harvey. (1985) UTPS/SLIM - Simplified Limited Instructional Manual - Program Documentation. TRAC/University of Washington report prepared for the Urban Mass Transportation Administration.
65. J. B. Schneider, R. Deardorf, C. Deffenbach, J. Latteman, E. McCormack, and C. Wellander (1983) Planning, Designing and Operating Multi-Center Timed-Transfer Transit Systems: Guidelines from Recent Experience in Six Cities, Urban Mass Transportation Administration, UMTA-WA-11-0009-84-1.

OTHER SCHOLARLY ACTIVITY

INVITED LECTURES AND SEMINARS.

1. McCormack, E. "Online Teaching and Learning" *PacTrans Webinar Series*, June 4, 2020.
2. McCormack, E. "Norway and Transportation Safety" *Institute of Transportation Engineers Washington*, Safety Conference and Training, Renton, January 7, 2020.
3. McCormack, E. and R. Avery "Sustainable Transportation - What is it? With Examples from a Sustainability Icon, Norway!" *America Planning Association National Webinar*, August 17, 2018.

4. McCormack, E. "Flexing FRATIS" Research Success: How to Create a Freight Research Community that Learns from Failure, *Transportation Research Board Annual Conference*, Washington D.C., January 7, 2018.
5. McCormack, E. and M. Jensen "Future Freight Transportation" Fresh Air from Future Freight Transportation: Smart, Sustainable and Sensible, *Transportation Research Board Annual Conference*, Washington D.C., January 7, 2018.
6. McCormack, E. "Testing Unmanned Aircraft for Avalanche Monitoring in Difficult Conditions" *ITS Washington*, Seattle, December 12, 2017.
7. McCormack, E. "Current ITS and Future Connected Vehicle Technologies to Collect Data for Freight Performance Measures for Planning and Operations" *ITS California*, Palm Desert, California, September 19-21, 2016.
8. McCormack, E., "GPS Data and Trucks", *Norwegian Public Roads Administration Headquarters Briefing*, Oslo, Norway, December 18, 2013.
9. McCormack, E., "Unmanned Aerial Systems and Roadside Avalanche Control", *Technology Days*, Norwegian Public Roads Administration, Trondheim, Norway, October 21, 2013.
10. McCormack, E., "Applications of Truck GPS Data Truck", *Sør-Trøndelag Technical Users Group*, Trondheim, Norway, October 3, 2013.
11. McCormack, E., "Unmanned Aerial Systems and Snow Avalanche Control", *Snow and Mud Hazards Conference*, Norwegian Public Roads Administration, Longyearbyen, Svalbard, September 6, 2013.
12. McCormack, E., Unmanned Aerial Systems used for Avalanche Control, *Avalanche Artillery Users of North America Committee (AAUNAC) Annual Meeting*, Seattle, May 17, 2013.
13. McCormack, E., "Applications of Truck GPS Data Truck", *Freight Data Users Forum, Transportation Research Board Annual Conference*, Washington D.C., January 16, 2013.
14. McCormack, E., "Bike Share Program Overview", *City of Seattle Research Forum*, December 7, 2012.
15. FRATIS - Freight Traveler Information System, Concept of Operations Walkthrough. Los Angeles, California May 1-2, 2012. Invited and funded by the U.S. Department of Transportation.
16. McCormack, E., "Truck Freight Performance Measures Program", *Washington State Legislative Transportation Committee*, Olympia WA, January 9, 2012.
17. McCormack, E. "GIS and Truck Data" *GIS Day Lightning Talk*, University of Washington, Seattle, November 16, 2011.
18. McCormack, E., "Quantifying Truck Performance with GPS", *ITS Washington*, Bellevue WA, November 1, 2011.
19. McCormack, E., "Freight Performance Measures from GPS Truck Data", *International Conference of Chinese Transportation Professionals*, Nanjing, China, August 16, 2011.
20. McCormack, E., "Truck Freight Performance Measures Program", *Washington State Transportation Commission*, Olympia WA, March 22, 2011.
21. McCormack, E., "Truck Freight Performance Measures Program", *Washington State Legislature, House Transportation Committee*, Olympia WA, February 2, 2011.

22. McCormack, E., “Washington State Freight Performance Measures Program”, *Recent and Future Development in Freight Data, Freight Data Committee*, Transportation Research Board 2011 Annual Meeting, January, Washington D.C., (Co-presented with B. Ivanov).
23. McCormack, E., “Do Our Roads Work for Trucks? – Exploring Performance Using Existing GPS Data”, *Washington Public Port Association Transportation and Infrastructure Seminar*, Seattle, WA, September 16, 2010.
24. McCormack, E., “Truck Freight Database Update”, *Washington State Legislature, House Transportation Committee*, Olympia WA, January 21, 2010.
25. McCormack, E., “Truck Freight Database Update”, *Washington State Legislature, Full Transportation Committee*, Olympia WA, December 3, 2009.
26. McCormack, E., “Transportation Infrastructure Protection and Security”, *5th Annual Office of the Director of National Intelligence Community Center of Academic Excellence Summer Seminar*, Seattle, WA, August 6, 2009.
27. McCormack, E., “GPS and Freight Performance Measures for Trucks”, *Western Freight Roundtable, Western Governors’ Association*, Denver, CO, April 29 and 30, 2009.
28. McCormack, E., “Weight-in-motion Technology in the United States”, *Norwegian Road Administration Technical Committee*, Trondheim, Norway, October 27, 2008
29. McCormack, E., “Using Network and Optimization Tools to Protect and Analyze Critical Infrastructure”, *Industrial Engineering Seminar*, Seattle, University of Washington, February 6, 2008.
30. McCormack, E., “Washington State’s eSeal Project”, GCM - Highway Freight Technology Showcase. Invited and funded by the U.S. Department of Transportation’s Peer-to-Peer Program, Argonne National Laboratory, Illinois, May 11, 2004.
31. McCormack, E., “ITS Research in Washington State”, *Japanese peer-to-peer visit*, Seattle, Washington, November 7, 2002.
32. McCormack, E., “The Evolution of Weather Information in Washington State and Border Technology in Washington State”, *TransTech Alaska*. Invited and funded by Alaska Department of Transportation and Public Facilities, Anchorage, Alaska, October 22–24, 2001.
33. McCormack, E., “Intelligent Transportation Systems in Washington State”, *American Association of Port Authorities - Information Technology Seminar*, Vancouver, British Columbia, May 14–16, 1999.
34. McCormack, E., “Freight and Technology in Washington State - Steering Committee Presentations”, *California Statewide Goods Movement ITS Action Plan*. Invited and funded by the California Department of Transportation, Sacramento, California. Three meetings 1999–2000.
35. McCormack, E., “GIS and Transportation Model”, *Workshop on Geographic Information Systems for Urban and Regional Planning*, Seattle, June 28–30, 1994.
36. McCormack, E., “GIS and Transportation Models”, *Introduction to Urban Travel Forecasting Procedures*, Seattle, August 21–25, 1989.

PRESENTATIONS GIVEN AT CONFERENCES.

1. Edward McCormack, Developing Design Guidelines for Commercial Vehicle Envelopes on Urban Street, Urban Transport Conference, Aveiro, Portugal, June 26th, 2019.

2. Edward McCormack and Torgeir Vaa, Testing Unmanned Aircraft for Roadside Snow Avalanche Monitoring, Transportation Research Board Annual Conference, Washington D.C., January 14, 2019.
3. Anna Bovbjerg, Manali Sheth, Anne Goodchild, Edward McCormack, and Polina Butrina, “Rails Next to Trails: A Methodology for Selecting Appropriate Safety Treatments at Complex Multimodal Intersections” Transportation Research Board Annual Conference, Washington D.C., January 8, 2018.
4. José Luis Machado-León, Anne Goodchild, Ed McCormack “Comprehensive service management of commercial vehicle parking capacity as a best practice: A predictive tool of offstreet infrastructure for delivery and pick-up operations” International Urban Freight Conference, Long Beach, California, October 17-20, 2017.
5. Edward McCormack and Astrid Sund, “The Need for Urban Logistics Planning Interview based studies from Norwegian cities” International Urban Freight Conference, Long Beach, California, October 17-20, 2017.
6. Manali Sheth, Anne Goodchild, Ed McCormack, Eric Herde, and Polina Butrina “Cargo Bike and Delivery Truck Trade-Offs in Seattle” International Urban Freight Conference, Long Beach, California, October 17-20, 2017.
7. Anna Gjoertz Bovbjerg, Manali Sheth, Anne Goodchild, and Ed McCormack “Improving Pedestrian and Bike Safety at Urban Trail Highway -Railroad Crossings” International Urban Freight Conference, Long Beach, California, October 17-20, 2017.
8. Manali Sheth, Masoud Ghodrat Abadi, Anne Goodchild, David Hurwitz, Ed McCormack “The Impact of Increasing Commercial Parking Utilization on Cyclist Safety in Urban Areas” International Urban Freight Conference, Long Beach, California, October 17-20, 2017.
9. Giron Valderrama, G. , A. Goodchild, J. Luis Machado-León, and E. McCormack “A new survey method for mapping private urban freight infrastructure” International Urban Freight Conference, Long Beach, California, October 17-20, 2017.
10. McCormack, E. “Evaluating Unmanned Aircraft Systems for Snow Avalanche Monitoring in Winter Weather and in Mountainous Terrain”, Transportation Research Board Annual Conference, Washington D.C., January 9, 2017.
11. Wang, Z. A. Goodchild, and E. McCormack, “A Methodology for Forecasting Freeway Travel Time Reliability Using GPS Data”, 14th World Transport Research Conference, Shanghai, China, July 10–15, 2016.
12. Sankarakumaraswamy S., E. McCormack and A. Goodchild, “Reliability Statistics for Major Freight Corridors Using Sparse GPS Data”, 14th World Transport Research Conference, Shanghai, China, July 10–15, 2016.
13. McCormack, E. and Ma, X, “Understanding Freight Trip Chaining Behavior Using Spatial Data Mining Approach with GPS Data” Transportation Research Board Annual Conference, Washington D.C., January 13, 2016.
14. McCormack, E., "GPS Data Used to Monitor Truck Roadway Performance" 6th METRANS National Urban Freight Long Beach, California, October 20-23, 2015.
15. McCormack, E., Saravanya S. Sankarakumaraswamy, M. Hallenbeck and A. Goodchild" Analysis of NPMRDS Data for Estimating Freight Transportation Performance Measures" 6th METRANS National Urban Freight Long Beach, California, October 20-23, 2015.

16. McCormack, E., "Using ITS devices to Analyze Norwegian Truck Travel", 10th ITS European Congress, Helsinki, Finland, June 16–19 2014.
17. McCormack, E., "Data from GPS Devices Used to Identify Truck Roadway Bottlenecks" 4th METRANS National Urban Freight Long Beach, California, October 12-14, 2011.
18. McCormack, E., "Using Commercial GPS data to Quantify Truck Performance on Rural Roads", National Rural ITS Conference, August 30, 2011 Coeur d'Alene, Idaho. (Travel funded by National Rural ITS Conference).
19. McCormack, E., "Urban Good Movement: Diverse Stakeholders and Divergent Views" 4th METRANS National Urban Freight Long Beach, California, October 12-14, 2011.
20. McCormack, E. and Wolf, C., "Using GPS Technology to Evaluate the Port of Seattle's Drayage Truck Trips" 4th METRANS National Urban Freight Long Beach, California, October 12-14, 2011.
21. McCormack, E., "Public use of Private Sector GPS Truck Data" *NATMEC Improving Traffic Data Collection Analysis and Use*, Transportation Research Board, Seattle Washington, June 21-24, 2010.
22. McCormack, E., "Public use of Private Sector GPS Truck Data" *Toward Better Freight Transportation Data*, Transportation Research Board, Irvine California, May 19-20, 2010.
23. McCormack, E., "Unmanned Aircraft for Avalanche Control", *Transportation Research Board Annual Conference*, Washington D.C., January 10-14, 2010.
24. McCormack, E., "Building a GPS Data Platform for Truck Performance Measures", *National Urban Freight Conference*, Long Beach, California, October 21–23, 2009.
25. McCormack, E., "Lessons Learn from Truck GPS Data", *Data and Tools for Linking Goods Movement, Air Quality, and Transportation Infrastructure Decisions*, Transportation Research Board, Irvine California, June 2-3, 2009.
26. McCormack, E., "Developing Truck-Oriented Freight Performance Measures", *National Urban Freight Conference*, Long Beach, California, December 5–7, 2007.
27. McCormack, E. "Developing Truck Mobility Benchmark in Washington State", *Research Issue in Freight Transportation: Congestion and System Performance*, Transportation Research Board, Washington D.C., October 22, 2007.
28. McCormack, E., "Improving the Efficiency of Regional Systems", *Faster Freight - Cleaner Air Puget Sound Conference*, Seattle, Washington, May 16, 2007.
29. McCormack, E., "Testing Unmanned Aircraft, *Washington State Intelligent Transportation Society*, Bellevue, Washington, October 3, 2006.
30. McCormack, E., "Near Real-Time Truck Travel Data in Rural Corridors, *National Rural Intelligent Transportation Systems Conference*, Big Sky, Montana, August 12–15, 2006.
31. McCormack, E., "Freight Mobility Data Collection", *Washington State Intelligent Transportation Society Annual Conference*, Seatac, Washington, October 14, 2004.
32. McCormack, E., "Technology at Borders", *National Rural Intelligent Transportation Systems Conference*, Spokane, Washington, September 12, 2005.
33. McCormack, E., "Technology at the Border - A Bi-national Effort", *Association for Canadian Studies in the United States*, Portland, Oregon, November 19–23, 2003. (Co-presented with K. Kitaska)

34. McCormack, E., "Freight Mobility Data Collection", *Washington State Intelligent Transportation Society*, Seatac, Washington, October 14, 2003.
35. McCormack, E., "The Border, Trucks, and Technology", *Institute of Transportation Engineers Quad Meeting*, Victoria, British Columbia, April 4–5, 2003.
36. McCormack, E., "Trucks, Borders, and Electronic Container Seals", *Intelligent Transportation Systems-Commercial Vehicle Operations Deployment Showcase*, Las Vegas, Nevada, January 28–30, 2003.
37. McCormack, E., "A Trade Corridor and Electronic Seals", *Transportation Research Board Annual Conference*, Washington D.C., January 9, 2003.
38. McCormack, E., "Testing Electronic Container Seals", *Washington State Intelligent Transportation Society Annual Conference*, SeaTac, Washington, September 24, 2002.
39. McCormack, E., "Freight and Technology Projects in the Northwest", *USDOT/Cargo Handling Cooperative Program - Industry Workshop*, Seattle Washington, July 25, 2002.
40. McCormack, E., "Automatic Vehicle Identification", *Northwest Freight Conference - Moving Our Economy*, Seatac, Washington, October 7, 2001.
41. McCormack, E., "ITS on the Washington/British Columbia Border", *Rural Advanced Technology and Transportation Systems Conference*, Burlington Vermont, August 25–28, 2001.
42. McCormack, E., "Mixed Land Use Neighborhoods and Transportation", *Transportation Research Board Annual Meeting*, Washington D.C., January 11, 2001.
43. McCormack, E., "Ports-Roads-Borders: Technology and the I-5 Corridor in Washington", *Cascadia Conference*, Eugene, Oregon, September 26–27, 2000.
44. McCormack, E., "Ports, Roads, Borders: ITS in Washington State", *ITS America - Tenth Annual Meeting and Exposition*, Boston, Massachusetts, May 1–4, 2000.
45. McCormack, E., "Rural ITS Safety Applications - ITS for Safety and Why Urban and Rural Applications Differ", *Rural Advanced Technology and Transportation Systems Conference*, Flagstaff, Arizona, August 29–September 1, 1999.
46. McCormack, E., "Using Data from the Puget Sound Transportation Panel", *TRB Task Force on Survey Methods*, Seattle, Washington, July 13, 1998.
47. McCormack, E., "Rural ITS Safety Study, Accidents and Safety", *ITS Oregon and ITS Washington, Applying Transportation Technology to Rural Travel*, Vancouver, Washington, November 2–3, 1998.
48. McCormack, E., "Mixed land use Neighborhoods and Transportation Patterns", *Institute of Transportation Engineers, Quad Conference*, Seattle Washington, April 7, 1998.
49. McCormack, E., "CVISN and the Commercial Vehicle Operation Program, Electronic Tag System for Trucks at the WA/BC border", *Statewide Regional Traffic Engineers Meeting for Washington State Department of Transportation*, Vancouver, Washington, December 3–4, 1997.
50. McCormack, E., "Travel Impacts of Urban Form: Implications from an Analysis of Two Seattle Area Travel Diaries", *Travel Model Improvement Program Conference on Urban, Design, Telecommuting, and Travel Behavior*, Transportation Research Board, Williamsburg, Virginia, October 27–30 1996. (Co-presented with M. Wilkinson).

PROFESSIONAL SOCIETY MEMBERSHIPS.

American Road & Transportation Builders Associations (2008-2010)
Institute of Transportation Engineers (1990-1993)

ARTICLE REVIEWS

Reviewer for approximately 90 articles including in Transportation Research Record, ASCE Journal of Transportation Engineering, International Journal of Applied Logistics, Transportation Research Part B, European Journal of Transport and Infrastructure Research, Institute of Transportation Engineers, Research in Transportation Economics, Journal of Advanced Transportation, Sustainability, and the Journal of Transport Geography.

GRADUATE STUDENTS

CHAired DOCTORAL DEGREES

Ane Dalsnes Storsæter, Dissertation Committee co-supervisor with K. Pitera, (Norwegian University of Science and Technology - Civil Engineering), Graduation anticipated 2021.

Ute Ehlers, Dissertation Committee co-supervisor with E. Ryneg, (Norwegian University of Science and Technology - Civil Engineering), *Safety Effect Assessment of Cooperative Intelligent Transport Systems*, Graduated December 2019.

Maureen Rowell, Dissertation Committee Co-chair with A. Goodchild, Graduated June 2020.

CHAired MASTER STUDENT

David Tomporowski, Committee Chair (Urban Planning and Development) Thesis Title: *A Different Kind of Gentrification: Seattle and its Relationship with Industrial Land*, Graduated June 2019

Manali Sheth, Committee Chair (Urban Planning and Development) Thesis Title: *Observing Goods Delivery Activities and Identifying Opportunities to Improve the Design of Commercial Vehicle Load Zones in Seattle*, Graduated June 2018

Manuel Cienfuegos, Committee Co-chair with T. Sager, (at Norwegian University of Science and Technology - Civil Engineering), Project title: *Relocation of Trondheim's Port*, Graduated 2014.

Stephen Padua, Committee Chair (Urban Development and Planning) Thesis title: *Seattle's Experience with Speed Cushions on Arterial Streets*, Graduated 2013.

Jonathan Winters, Committee Chair, (Urban Development and Planning), Thesis title: *Multifamily Residential Parking Demand and Walkable Food Access in Suburban Transit Corridors*, Graduated 2012.

Chilan Ta, Committee Chair (Urban Development and Planning). Thesis title: *Resilience and collaborative planning for freight movement: the case of the Washington Department of Transportation*, Graduated 2011.

Victor Stover, Committee Chair. Thesis title: *The impact of weather on bus ridership in Pierce County*, Washington, Graduated 2010.

Xiaolei Ma, Committee Co-chair with Y. Wang, Thesis title: *Developing a GPS-based On-line Freight Performance Measures Platform*, Graduated 2010.

OTHER STUDENT SUPERVISION

Student Name	Level of Supervision	Completed
Hao Yang	Thesis Committee Member (CEE)	On-going
Chenxi Liu	Paper Committee Member (CEE)	On-going
Ted Cheung	Paper Committee Member (UDP)	On-going
Alexander Alan Phillips-White	Paper Committee Member (UDP)	Spring 2020
Ruimin Ke	Dissertation Committee Member (CEE)	On-going
John Ash	Dissertation Committee Member (CEE)	On-going
Molly Riddle	Thesis Committee Member (UDP)	Spring 2020
Mairin McKnight-Slottee	Thesis Committee Member (UDP)	Spring 2020
Ziyuan Pu	Dissertation Committee Member (CEE)	Spring 2020
Xiang Zhang	Thesis Committee Member (CEE)	Fall 2019
Nazib Siddique	Dissertation Committee Member (CEE)	Summer 2019
Catherine Xi	Thesis Committee Member (CEE)	Fall 2018
Mingjian Fu	Thesis Committee Member (CEE)	Fall 2018
Nicholas Herdon	Research Committee Chair (CEE)	Fall 2018
Jose Luis Machado	Thesis Committee Member (CEE)	Spring 2018
Micaela Rodriguez	Research Committee Member (CEE)	Spring 2018
Wenjin Gu	Research Committee Member (CEE)	Spring 2018
Fan Qi	Research Committee Member (CEE)	Spring 2018
Eric Barber	Thesis Committee Member (CEE)	Spring 2018
Polina Butrina	Thesis Committee Member (CEE)	Winter 2018
Xiang Zhang	Research Paper Committee (CEE)	Winter 2018
Hiroyuki Hinohara	Research Paper Committee Member (CEE)	Summer 2017
Anna Bovbjerg	Thesis Committee Member (CEE)	Summer 2017
Sishuang Wang	Research Paper Committee Member (CEE)	Spring 2017
Siqi Huang	Research Paper Committee Member (CEE)	Spring 2017
Kai Kuo	Research Paper Committee Member (CEE)	Spring 2017
Bryanna Osmonson	Thesis Committee Member (UBP)	Spring 2017
Brian Manford	Thesis Paper Committee Member (UBP)	Spring 2017
Zach Wieben	Thesis Committee (UBP)	Spring 2017
Odd Einar Hjellen	Research Paper Advisor (NTNU)	Fall 2016
Riley Kimball	Research Paper Committee Member (CEE)	Summer 2016
Pramod Ayyalasomayajula	Research Paper Committee Member (CEE)	Summer 2016
Young Lu	Thesis Committee (UBP)	Spring 2016
Ruimin Ke	Thesis Committee	Spring 2016
Ziyuan Pu	Research Paper Committee Member (CEE)	Spring 2015
Jerome Drescher	Thesis Committee Member	September 2014
Thomas Berge, Erik Svaleng, Erland Rogene, Anders Evensen	Advisor and thesis grader for bachelor degree project (Inspection of avalanches with an unmanned aircraft) Sør-Trøndelag University College	June 2014
Zun Wang	Dissertation Committee Member (CEE)	June 2014

Sa Xiao	Research Paper Committee Member (CEE)	Spring 2013
Xiaolei Ma	Dissertation Committee Member (CEE)	Spring 2013
Jun Wang	Research Paper Committee Member (CEE)	Spring 2013
Zun Wang	Research Assistant	Fall 2013
Xiaoyue Liu	Dissertation Committee Member (CEE)	Spring 2013
Tomas Levin	First opponent on dissertation committee. (Norwegian University of Science and Technology - Civil Engineering)	Summer 2012
Kelly Pitera	Dissertation Committee Member (CEE)	Summer 2102
Runze Yu	Dissertation Committee Member (CEE)	Summer 2012
Kayvon Mahboobzadeh	Undergraduate mentor (UDP)	Spring 2012
Xin Xin	Research Paper Committee Member (CEE)	Winter 2012
Michalis Avraam	Dissertation Committee Graduate Faculty Representative (Geography)	Summer 2011
Wenjuan Zhao	Dissertation Committee Member (CEE)	Spring 2011
Joshua Smith	Research Paper Committee Member (CEE)	Spring 2011
Wenjuan Zhao	Research Assistant (50%)	Spring 2011
Xiaolei Ma	Hourly employee (50%)	March 2011 to June 2011
Felipe Sandoval	Thesis Committee Member (CEE)	Winter 2011
Timothy Thomson	Thesis Committee Member (CEE)	Winter 2011
Erica Wygonik	Thesis Committee Member (CEE)	Fall 2010
Wenjuan Zhao	Research Assistant (50%)	Summer / Fall 2010
Mathew Kline	Thesis Committee Member (CEE) and Research Assistant	Winter and Spring 2010
Chilan Ta	Thesis Committee Member (CEE)	Spring 2010
Victor Stover	Thesis Committee Member (UPD)	Winter 2010
Chilan Ta	Research Assistant (25%)	January 2009 to March 2010
Li Ling	Thesis Committee Member (CEE)	Spring 2009
Xiaolei Ma	Research Assistant (50%)	June 2008 to March 2010
Yao-Jan Wu	Research Assistant (50%)	April 2008 to June 2008

RESEARCH ACTIVITIES

FUNDED RESEARCH

Funding Agency	Title	My Role	Amount	Dates
Pacific Northwest Transportation Consortium (PacTrans)	<i>Guidelines for using photogrammetric tools on unmanned aircraft systems to support the rapid monitoring of avalanche-prone roadside environments</i>	PI	\$180,00, UW, my amount \$50,000	8/2019 to present
PacTrans	<i>Managing Increasing Demand for Curb Space in the City of the Future</i>	Co-PI with A. Goodchild	\$120,000, my amount ~\$13,000	8/2019 to present
Norwegian Public Roads Administration	<i>Testing Structure from Motion on Drones Used for Avalanche Monitoring</i>	Project Lead	~ \$60,000, my amount ~ \$20,000	06/2019 to present
Department of Energy	<i>Technology Integration to Gain Commercial Efficiency for the Urban Goods Delivery System, Meet Future Demand for City Passenger and Delivery Load/Unload Spaces, and Reduce Energy Consumption</i>	Investigator (PI – A. Goodchild)	\$1,500,000, my amount ~\$34,000	10/2018 to present
SDOT	<i>Cargo E-bike Study</i>	Investigator (PI – A. Goodchild)	\$160,00, my amount ~ \$5,000	10/2018 to present
SDOT	<i>One Center City Cordon Count</i>	Investigator (PI – A. Goodchild)	\$160,00, my amount ~ \$25,000	07/2018 06/2019
Norwegian Public Roads Administration	<i>Traffic Sensing for E8 Corridor Performance Monitoring and Travel Reliability Enhancement</i>	Co-PI with Y. Wang	~\$241,326, my amount ~ \$32,000	05/2018 to present
Norwegian Public Roads Administration	<i>Testing Sensor on Drones Used for Avalanche Monitoring</i>	Project Lead	~\$50,000 my amount is \$15,000	07/2017 to 7/2018
USDOT	<i>NCHRP 20-114: Multimodal Freight Transportation Research Roadmap</i>	Investigator (PI – A. Goodchild)	Amount for UW \$75,000, my amount \$24,000	6/2017 to 3/2018

Funding Agency	Title	My Role	Amount	Dates
Seattle Department of Transportation (SDOT)	<i>Freight Delivery Final 50 Feet.</i>	Investigator (PI – A. Goodchild)	\$205,000, my amount \$14,402	01/2016 to 12/2017
NPRA	<i>Unmanned Aircraft used for Avalanche Monitoring Demonstration</i>	Project Lead	~\$60,000, my amount is \$12,000	10/2016 to 01/2017
Oregon Department of Transportation	<i>Multimodal Intersection: Resolving Conflicts between Trains, Motor Vehicles, Bicyclist and Pedestrians</i>	Project manager (PI-Goodchild)	Total \$150,000, my amount, \$27,892	01/2016 to 6/2017
WSDOT	<i>Transportation Systems and Operations (TSMO) Web Site</i>	Investigator (PI - M. Hallenbeck)	\$40,000 my amount is 28,311	01/2016 to 12/2017
USDOT	<i>I-35 Freight Advanced Traveler Information (FRATIS) Impact Assessment</i>	Investigator (PI - M. Hallenbeck)	Total \$210,000, my amount \$26,000, (Subcontract with Cambridge Systematics)	08/2015 to present
NPRA	<i>Unmanned Aircraft used for Avalanche Monitoring Demonstration</i>	Project Lead	~ \$50,000, my amount \$15,000	07/2015 to 07/2016
USDOT	<i>Behavioral Based National Freight Demand Model</i>	Co-PI (with A. Goodchild)	Total \$120,273, (Subcontract with RSG)	6/2015 to present
USDOT	<i>National Performance Monitoring Research Data Set (NMPRDS) Support Center.</i>	Investigator (PI - M. Hallenbeck)	Total \$90,000, my amount \$75,000, (Subcontract with Cambridge Systematics)	1/2015 to 07/2017
USDOT	<i>Long Term Pavement Program (LTPP) 2014</i>	Investigator (PI - M. Hallenbeck)	Total \$51,850, my amount \$12,000	7/2014 - 1/2015
PacTrans	<i>Research report review</i>	Investigator	\$4,934	10/2014
WSDOT	<i>Freight Performance Measures</i>	Investigator (PI M. Hallenbeck)	Total \$92,662, my amount \$15,400	9/2014 to 11/2016
PacTrans	<i>An Evaluation of Safety Impacts of Seattle's Commercial Delivery Parking Pricing</i>	Co-PI (with A. Goodchild)	\$60,000	2/2015 - 06/2016

Funding Agency	Title	My Role	Amount	Dates
NCHRP 08-98	<i>Guide for Identifying, Classifying, Evaluating, and Mitigating Truck Freight Bottlenecks</i>	Investigator (PI M. Hallenbeck)	Total \$80,027, my amount \$27,000, (Subcontract with Cambridge Systematics)	9/2014 - present
NPRA	<i>Unmanned Aircraft to Support Avalanche Control Operations,</i>	Project Leader	My amount \$75,000	10/2013 - 6/2014
Norwegian Public Roads Administration (NPRA)	<i>Analyzing Truck Data</i>	Project Leader	My amount \$380,000	10/2013 - present.
Joint Center for Aerospace Technology Innovation	<i>Snow depths from the heights: developing a mission-specific civilian unmanned aircraft system for sensing the mountain snowpack</i>	Co-PI (with J. Lundquist)	\$91,533	2/2013 - 6/2013
City of Seattle Auditors Office	<i>Seattle Department of Transportation Efficiencies</i>	PI	\$75,000	9/2012 - 12/2013
USDOT	<i>FRATIS - Freight Traveler Information Systems Test</i>	PI	\$25,000 (Subcontract with Cambridge systematics)	10/2012 - 6/2013
PacTrans	<i>Developing a Performance Measurement Approach to Benefit/Cost Freight Project Prioritization</i>	Investigator (PI A. Goodchild) multiple university team (UW, WSU and OSU) project lead WSU	Total \$228,000 my amount \$27,300	9/2012 - 11/2013
USDOT	<i>FRATIS - Freight Traveler Information System</i>	PI	\$12,000 (Subcontract with Cambridge Systematics)	9/2011 - 6/2012
WSDOT	<i>Freight Performance Measurement Program</i>	PI	\$160,000	7/2011 - 6/2013
Yakima County Council of Governments	<i>Data Support for the Freight Model Data Program</i>	PI	\$8,700	6/2011 - 7/2011

Funding Agency	Title	My Role	Amount	Dates
USDOT	<i>International Border Crossing Electronic Screening System.</i>	PI	\$6,844 (Subcontract with Battelle)	5/2011– 8/2012
NCFRP 31	<i>Guidebook for Sharing Freight Transportation Data</i>	PI	\$37,760 (Subcontract with Cambridge systematics)	3/2011 - 12/ 2012
Port of Seattle	<i>GPS Truck Patterns at the Port of Seattle</i>	Mentor for UW's Environmental Management Program Keystone Project	\$8,300	9/2010 - 3/2011
NCFRP 32	<i>Impact of Smart Growth on Metropolitan Goods Movement.</i>	Investigator (PI A. Goodchild)	Total \$176,233, my amount \$47,000, (Subcontract with Puget Sound Regional Council)	12/2010 - 12/2012
TransNow	<i>Enhanced GPS from Fleet Management Systems</i>	PI	\$76,000	7/2010 - 6/2011
Washington State Legislature and WSDOT	<i>Truck GPS Performance Measures, Phase 2</i>	PI	\$121,000	7/2010 - 6/2011
City of Seattle	<i>Bike Share Program Feasibility Studio</i>	PI	\$10,000	1/2010 - 3/2010
European Union	<i>BE-LOGIC, Benchmark Logistics for Co-Modality: USA to European Comparison</i>	PI	\$15,000	1/2010 - 5/2010.
TransNow	<i>Exploring Terrestrial LIDAR for Green Roadside and Corridor Surveys</i>	PI	\$37,000	7/2009 - 6/2011

Funding Agency	Title	My Role	Amount	Dates
Department of Homeland Security	<i>National Center for Border Security and Immigration, Operational Analysis and Command, Control and Communication</i>	Investigator (PI M. Haselkorn)	Total \$690,587, my amount \$8,400	9/2009 – 6/2010
Transportation Research Board, SHRP2 L11	<i>Evaluating Alternative Operations Strategies to Improve Travel Time Reliability, USDOT, project team member</i>	Investigator, (PI M. Hallenbeck)	Total \$183,791, my amount \$29,702, (Subcontract with Kittleson Associates)	9/2008 - 3/2010.
FHWA	<i>European Freight Technology Scanning Tours</i>	PI	\$14,000	Traveled to Norway 7/2008
TransNow	<i>Truck Trip Generation Test</i>	PI	\$64,000	12/2008 - 7/2010
TransNow	<i>Washington State Freight System Resiliency Study</i>	Investigator (PI A. Goodchild)	Total \$72,000, my amount \$3,000	07/07-07/08
TransNow	<i>Truck Based Performance Measures</i>	Co-PI (with N. Nihan)	\$640,000	12/2007 - 7/2010
Whatcom Council of Governments (WCOG)	<i>Software Support for the Border Data System,</i>	PI	\$22,000	8/2006 - 9/2007
USDOT	<i>Testing an Unmanned Aerial Vehicle for the Washington State Department of Transportation</i>	PI	\$120,000	8/2005 - 12/2008)
USDOT	<i>Washington's ITS Projects: Developing Lessons Learned</i>	PI	\$15,000	7/2005 - 7/2006
Washington State Freight Mobility Strategic Investment Board	<i>Developing Performance Benchmarks for Trucks</i>	PI	\$25,000	2/2004 - 2/2005
USDOT	<i>Field Operational Test of Electronic Container Seals</i>	PI	\$318,000	12/2002 - 12/2008

Funding Agency	Title	My Role	Amount	Dates
WCOG	<i>Queuing Analysis at the Peace Arch International Border Crossing</i>	PI	\$36,000	8/2000 - 12/2001
WSDOT	<i>Improving Intermodal Freight Data</i>	PI	\$262,021	1/2000 – 2/2003
WSDOT	<i>ITS for Roadway Safety</i>	PI	\$50,000	11/1998 - 9/2003
WSDOT	<i>ITS for Safety on Rural Roads</i>	PI	\$120,400	9/1997 - 9/2001.

PROJECT MANAGEMENT

1. ITS and Commercial Vehicle Operations. (Project to explore what the trucking community needs from technology.) Project Manager for the Washington State Department of Transportation, \$146,000 (2004–2008).
2. Electronic Container Door Seal (Transponders) Field Operational Test. Project Manager for the Washington State Department of Transportation and Customs and Border Protection, \$2,200,000 (2003–2008).
3. Freight Mobility Strategic Investment Board. (Project to install transponder readers for freight data collection.) Project Manager for the Washington State Department of Transportation, \$439,000 (2003–2008).
4. International Trade Corridor Phase 2. (Technology use to increase freight mobility at the Washington/British Columbia Border.) Project Manager for the Washington State Department of Transportation, \$1,701,000 (2001–2005).
5. Intermodal Freight Data. (Project to test border crossing facilitation technology) Project Manager for the Washington State Department of Transportation and U.S. Customs, \$511,000 (2000–2003).
6. SR 5, US/Canada CVO Border Crossing. (Technology to facilitate trucks movement at the Washington/British Columbia Border.) Project Manager for the Washington State Department of Transportation, \$1,675,000 (1997–2004).

7.

8. DOCUMENTATION OF TEACHING EFFECTIVENESS

COURSES TAUGHT AND STUDENT EVALUATIONS

Course	Title	Quarter	Credit	Enroll-ment	Eval-uation Res-ponse	Items unadjusted			Ave. of Items 1-4 (5 pts. best)
						1	2	4	
IPM 514	Transportation Systems	Winter 2020	3	10	17	4.3	4.3	4.3	4.3
CET 511	Freight and Transportation Planning (Team taught with 3 other instructors)	Fall 2019	3	40					4.8
CET 564	Sustainable Transportation from a Systems Perspective	Fall 2019	4	10	13	3.8	4.0	4.9	4.0
IPM 514	Transportation Systems	Winter 2019	3	14	9	4.0	4.8	4.1	4.3
CET 591	Freight Transportation	Fall 2018	3	13	13	4.8	4.8	4.8	4.8
CET 564	Sustainable Transportation from a Systems Perspective	Fall 2018	4	15	13	4.4	4.3	4.6	4.2
IPM 514	Transportation Systems	Spring 2018	3	16	NA				
CEE 591	Freight Transportation	Fall 2017	3	14	14	4.6	4.4	4.5	4.5
IPM 514	Transportation Systems	Spring 2017	3	6	2	4.0	3.0	4.0	3.2
CEE 591	Freight Transportation	Fall 2016	3	20	18	4.4	4.5	4.8	4.7
CEE 564	Sustainable Transportation from a Systems Perspective	Fall 2016	4	17	11	4.6	4.4	4.6	4.5
IPM 514	Transportation and Climate Change	Spring 2016	3	8	3	4.0	4.0	3.2	3.5
CEE 564	Sustainable Transportation from a Systems Perspective	Fall 2015	4	15	11	4.8	4.8	4.8	4.8
CEE 591	Freight Transportation	Fall 2015	4	18	17	4.2	4.2	4.3	4.2
CEE 441	Civil Engineering Capstone (Co-taught with S. Muench)	Spring 2015	5	62					

Course	Title	Quarter	Credit	Enroll-	Eval-	Items unadjusted			Ave. of
IPM 514	Transportation and Climate Change	Spring 2015	3	9	3	4.8	4.8	4.8	4.8
CEE 564	Sustainable Transportation from a Systems Perspective	Fall 2014	4	15	9	4.4	4.6	4.4	4.4
IPM 514	Transportation and Climate Change	Spring 2014	3	17					
CEE 564	Sustainable Transportation from a Systems Perspective	Fall 2013	4	7					
IPM 514	Transportation and Climate Change	Spring 2013	4	19	No				
CEE 591	Freight Transportation	Winter 2013	3	23	19	3.9	3.9	4.0	4.0
CEE 564	Sustainable Transportation from a Systems Perspective	Fall 2012	4	18	12	4.2	4.5	4.8	4.5
UDP 576/ CEE 586	Pedestrian Travel, Land Use, and Urban Form	Spring 2012	3	19	12				3.9
SPCI 514	Critical Transportation Infrastructure	Spring 2011	3	1	No				
CEE 591	Freight Transportation	Winter 2011	3	13	12	4.1	4.2	4.3	4.2
ENVIR 511	Environmental Management Keystone- Port of Seattle Transportation Impacts	Autumn 2010/ Winter 2011	4	8	No				
SPCI 514	Critical Transportation Infrastructure	Spring 2010	3	4	No				
CEE 591	Freight Transportation	Winter 2010	3	6	Yes	4.7	4.1	4.3	4.3
UDP 508	Bike Share Program - Studio	Winter 2010	5	4	4	4.5	4.5	3.8	4.1
SPCI 503	Critical Infrastructure Analysis	Winter 2010	3	9	No				
SPCI 514	Critical Transportation Infrastructure	Spring 2009	3	18	No				
CEE 591	Freight Transportation	Winter 2009	3	12	No				
SPCI 503	Critical Infrastructure Analysis	Winter 2009	3	11	No				
CEE 591	Freight Transportation	Winter 2008	3	13	13	3.6	3.6	3.4	3.9

Course	Title	Quarter	Credit	Enroll-	Eval-	Items unadjusted			Ave. of
CEE 591	Freight Transportation	Winter, 2007	3	22	22	3.6	3.2	4.0	3.8
SPCI 503	Critical Infrastructure Analysis	Winter 2007	3	12	No				
CEE 591	Freight Transportation	Autumn 2006	3	13	13	4.3	4.3	4.6	4.4
SPCI 503	Critical Infrastructure Analysis	Autumn 2006	3	14	Yes				4.0
CEE 591	Freight Transportation	Autumn 2005	3	11	10	4.1	4.1	4.4	4.4
SPCI 503	Critical Infrastructure Analysis	Winter 2005	3	13	No				
CEE 591	Freight Transportation	Autumn 2003	3	8	8	3.9	4.3	3.9	4.0

SUPERVISION OF INDEPENDENT STUDY STUDENTS

Course	Student Name	Quarter	Credits
CET 600	Yidan Hu	Spring 2020	4
CET 600	Lu Liu	Spring 2020	1
CET 600	Jewell Hamilton	Spring 2020	1
CET 600	Obi Idigo	Spring 2020	1
CET 600	Shawna Kitzman	Spring 2020	1
CET 600	John Simberis	Spring 2020	1
CET 600	Yidan Hu	Winter 2020	2
CET 600	Jewell Hamilton	Winter 2020	1
CET 600	Obi Idigo	Winter 2020	1
CET 600	Shawna Kitzman	Winter 2020	1
CET 600	John Simberis	Winter 2020	1
CET 600	Anna Germundson	Winter 2018	1
CET 600	Jennifer Kreifels	Winter 2018	1
CET 600	Kenyon Neal	Winter 2018	1
CET 600	Lauren Dirgo	Winter 2018	1
CET 600	Bart Treece	Winter 2018	1
CET 600	Matt Boulanger	Winter 2018	1
UDP 547	Stephen Padua	Spring 2013	6
UDP 547	Stephen Padua	Winter 2013	3
UDP 700	Jonathan Winters	Winter 2010	3
CEE 499	Sungchan Lim	Winter 2011	3
UDP 600	Daniel Rowe	Spring 2010	2
UPD 600	Max Hepp-Buchanan,	Winter 2010	3
CEE 700	Xiaolei Ma	Winter 2010	10
CEE 600	Xiaolei Ma	Autumn 2009	3
CEE 600	Victor Stover	Autumn 2009	3
CEE 700	Xiaolei Ma	Summer 2009	2
CEE 700	Xiaolei Ma	Spring 2009	7

CEE 599	Chilan Ta	Winter, 2009	1
CEE 700	Xiaolei Ma	Winter 2009	7
CEE 700	Xiaolei Ma	Summer 2009	5

LIST OF OTHER TEACHING CONTRIBUTIONS

Organizer, Norwegian-UW Seafood Transportation Design Challenge, Norway June 14-18, 2018 and Seattle, September 15-21, 2018.

Planning Committee Member, 2nd Innovations in Urban Freight Transportation Research Workshop held in Oslo Norway. September 16-17, 2014.

Planning Committee Member, Transportation Research Board, Adapting Freight Models and Traditional Freight Data Programs for Performance Measurement Workshop, Washington DC. April 30 – May 1, 2013.

Organizer (with A. Goodchild and A. Bassok) Innovation in Urban Freight International Workshop, Seattle, February 4-8, 2012.

Organizer, Norwegian Road Administration Visit Tour (Visit to UW and WSDOT by five managers from the Norwegian Public Roads Administration), May 31–June 2, 2011.

Organizer, Scandinavian Scanning Tour (Visit to WSDOT faculties by six managers from Norwegian, Swedish, and Danish Road Administrations), June 18–21, 2010.

Organizer and Moderator, The Technology Behind ITS Workshop, Seattle, November 7, 2000 (100 attendees).

Organizer, ITS Ideas Workshop, Seattle, February 4, 1998 (50 attendees).

Manager, UTPS Travel Demand Model Software Support Center (1987–1989).

SERVICE

DEPARTMENTAL SERVICE

Graduate Education Committee (2018-present)

Geospatial Faculty Position Search Committee (2017)

Undergraduate Education Committee (2014-2017)

PROFESSIONAL ORGANIZATIONS AND OTHER SERVICE

Student admissions committee, Masters of Infrastructure Planning and Management (MIPM), Urban Development and Planning, (2020).

Transportation Research Board representative for the University of Washington (2013-Present)

Member, Transportation Secure Data Center Advisory Group, National Renewable Energy Laboratory (NREL), U.S. Department of Energy, (2012-present).

Student admissions committee, Masters of Infrastructure Planning and Management (MIPM), Urban Development and Planning, (2012-2018).

Student admissions committee, Masters in Sustainable Transportation, Civil and Environmental Engineering, (2012-2017).

Chair, Interagency Data Sharing Group, Puget Sound Regional Council, (2011 -2013).

Vice-chair, Transportation Research Board, Committee on International Trade and Transportation, AT020 (2011-2014).

Member, Transportation Research Board, Committee on International Trade and Transportation, AT020 (2009-2011).

Steering Committee Member, Commercial Vehicle and Freight Mobility Forum, ITS America (2003–2008).

Co-Chair, ITS America’s Intermodal Freight Special Interest Group (2003–2008).

Chair, ITS sub-committee, International Mobility and Trade Corridor Project (IMTC), Whatcom Council of Governments (2001–2010).

Steering Committee Member, International Mobility and Trade Corridor Project (IMTC), Whatcom Council of Governments (1999–2011).

COMMUNITY SERVICE

Transportation Commissioner, City of Lake Forest Park, Washington (2004–2012).

NATIONAL, INTERNATIONAL, OR GOVERNMENTAL SERVICE

Workshop participant to develop new masters course content in the Department of Civil and Environment Engineer at the Norwegian University of Science and Technology, Trondheim Norway, February 26, 2019.

Steering Committee Member, California Statewide Goods Movement ITS Action Plan, California Department of Transportation, Sacramento, California (1999–2000).

Member, Freight Working Group, Washington State Department of Transportation (2007–2014).

Member, Freight Data System Working Group, Washington State Department of Transportation (2007–2011).